Newcomer Math Diagnostic Worksheet (Informal)

Name: _____ **Date:** _____

Addition

Answer the questions. Show your work.

$2 + 2$	$7 + 6$	$12 + 10$	$18 + 0$	$24 + 16$
$22 + 40$	$33 + 25$	$46 + 27$	$6 + -5$	$8 + -9$

Subtraction

Answer the questions. Show your work.

$9 - 1$	$8 - 8$	$17 - 9$	$25 - 7$	$32 - 13$
$32 - 0$	$43 - 63$	$-5 - 12$	$6 - -3$	$7 - -8$

Multiplication

Answer the questions. Show your work.

$$\begin{array}{r} 3 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ \times\ 1 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 10 \\ \times\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ \times\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ \times\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ \times\ 0 \\ \hline \end{array} \qquad \begin{array}{r} -3 \\ \times\ 13 \\ \hline \end{array} \qquad \begin{array}{r} -32 \\ \times\ -2 \\ \hline \end{array}$$

Division

Answer the questions. Show your work.

$$\begin{array}{r} 16 \\ \div\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ \div\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 34 \\ \div\ 1 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \div\ 9 \\ \hline \end{array} \qquad \begin{array}{r} 93 \\ \div\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \div\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 45 \\ \div\ 15 \\ \hline \end{array} \qquad \begin{array}{r} 84 \\ \div\ 21 \\ \hline \end{array} \qquad \begin{array}{r} -16 \\ \div\ 2 \\ \hline \end{array} \qquad \begin{array}{r} -72 \\ \div\ -6 \\ \hline \end{array}$$

Long Division

Answer the questions. Show your work.

$4\overline{)260}$ $5\overline{)735}$

Number Line

Put the numbers in the correct location on the number line.

5 -3 2 7.5

Number Line

Simplifying Fractions

Simplify the fractions. Show your work.

$\frac{6}{12} =$ $\frac{8}{3} =$

$\frac{7}{14} =$ $\frac{-6}{12} =$

$\frac{12}{132} =$ $\frac{-18}{-9} =$

Math with Fractions

Find the answer to each quesion. Show your work.

$\frac{2}{3} + \frac{1}{3} =$

$\frac{1}{2} \times \frac{1}{2} =$

$\frac{3}{5} + \frac{4}{5} =$

$\frac{2}{3} \times \frac{3}{4} =$

$\frac{3}{4} - \frac{1}{4} =$

$\frac{-5}{6} \div \frac{3}{-4} =$

$\frac{1}{2} - \frac{1}{3} =$

$\frac{7}{12} \div \frac{3}{16} =$

Vocabulary

Write the number of the terms or examples next to the correct vocabulary word. Each term or example will be used only 1 time.

Term / Example

1. subtraction $(-)$
2. addition $(+)$
3. $a \times a$ or a^2
4. multiplication $(\times)$
5. division $(\div)$
6. $\sqrt{a}$

Vocabulary Words

____ difference

____ product

____ quotient

____ square root

____ square

____ sum

Factoring

Factor the terms below. Show your work.

$25 = \_\_\_\_ \times \_\_\_\_$

$45 = \_\_\_\_ \times \_\_\_\_ \times \_\_\_\_$

$12 = \_\_\_\_ \times \_\_\_\_ \times \_\_\_\_$

$2x^2 = \_\_\_\_ \times \_\_\_\_ \times \_\_\_\_$

$x^2 + 3x + 2 = (\_\_\_\_ + \_\_\_\_)(\_\_\_\_ + \_\_\_\_)$

Algebra

Solve for the variable in the questions below.

$x + 10 = 25$. What is x?

$3y - 13 = 8$. What is y?

$6a + 8 = 3a - 10$. What is a?

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